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## Curriculum Subcommittee Agenda, November 3, 2011

Utah State University

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## CURRICULUM SUBCOMMITTEE AGENDA

3 November 2011

A meeting of the Curriculum Subcommittee of the Educational Policies Committee will be held on 3 November 2011 at 2 p.m. in Old Main 136 (Champ Hall Conference Room).

Approval of the minutes of the 6 October 2011 meeting (see below)

### College of Agriculture

#### **Department of Nutrition, Dietetics and Food Sciences**

Add Repeatable for Credit

NDFS 6050	Community Nutrition Internship Repeatable for credit Effective Summer 2012	2-6 cr.
NDFS 6250	Clinical Nutrition Internship Repeatable for credit Effective Summer 2012	2-10 cr
NDFS 6350	Food Service Management Internship Repeatable for credit Effective Summer 2012	2-12 cr

#### **Department of Landscape Architecture and Environmental Planning**

Prerequisite Change

LAEP 1300	Computer Applications in Landscape Architecture Prerequisite: Must be an LAEP major Effective Summer 2012	3 cr.
LAEP 6410	Redefining the Urban Landscape Prerequisites: LAEP 2700 and 2720 Effective Summer 2012	5 cr.

### Caine College of the Arts

#### **Department of Art**

University Studies Request

ARTH 2730	Art of the African Diaspora University Studies Designation: BHU Effective Spring 2012	3 cr.
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Delete Course

ART 3210	Classical Mythology CLAS 3210 is NOT being deleted Effective Fall 2011	3 cr.
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ART 3260 Anatomy for Artists 3 cr.  
Effective Fall 2011

**Huntsman School of Business**

**Department of Management Information Systems**

Prerequisite Change, Course Description Change

OSS 1400 Microcomputer Applications 3 cr.  
No prerequisite needed  
Effective Spring 2012

Prerequisite Change

MIS 3330 Database Management 3 cr.  
Prerequisites: Admittance to a USU major; cumulative GPA of 2.67 or higher; completion of at least 40 credits; MIS 2100 or OSS 2450 or permission of instructor  
Effective Spring 2012

**Emma Eccles Jones College of Education and Human Services**

Dual List Change

EDUC 6780 Qualitative Methods II 3 cr.  
Remove dual list of EDUC 7780  
EDUC 6780 inactivated Fall 2011  
Effective Summer 2012

**Department of Health, Physical Education and Recreation**

Reactive Course

PRP 2500 Outdoor Recreation Management 3cr.  
Effective Summer 2012

**Elementary and Secondary Education Program (School of TEAL)**

New Course

ELED 4150 Assessment and Differentiation Across the Curriculum 2 cr.  
Effective Spring 2012

Prerequisite Change

ELED 5050 Student Teaching-Kindergarten 3-6 cr.  
Prerequisite: ELED 4480  
Pass/Fail only  
Effective Fall 2012

Title Change, Course Description Change

SCED 4210 Assessment and Curriculum Design 3 cr.  
Previously Cognition and Evaluation of Student Learning  
Effective Fall 2012

## **Department of Special Education and Rehabilitation**

### Credit Hour Change

SPED 6900	Independent Study Previously 1-2 cr. Repeatable for credit Effective Spring 2012	1-3 cr.
SPED 6910	Independent Research Previously 1-2 cr. Repeatable for credit Effective Spring 2012	1-3 cr.

### Title Change, Course Description Change

SPED 7830	Personal Preparation in Disability Disciplines Previously Special Education Personnel Preparation Methods Effective Summer 2012	2 cr.
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## **College of Engineering**

### New Course

ENGR 2455	Numerical Methods for Engineers Laboratory Corequisite: ENGR 2450 This course is only available at USU-Eastern Effective Spring 2012	1 cr.
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## **College of Humanities and Social Science**

### **Department of History**

#### New Course

HIST 4650	Women and Gender in the US West University Studies Designation: DHA Effective Spring 2012	3 cr.
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#### University Studies Request

HIST 3530	African Environmental History University Studies Designation: DHA Effective Spring 2012	3 cr.
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#### Change Multiple List

ARTH/CLAS/RELS 3210	Classical Mythology Add multiple list of ARTH/RELS 3210 Remove multiple list of ART 3210 Effective Summer 2012	3 cr.
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## **Department of Journalism and Communication**

### Prerequisite Change

JCOM 1130	Beginning Newswriting for the Mass Media Prerequisites: Fulfillment of Communications Literacy CL1 requirement through coursework or examination and English Proficiency Test offered through the Journalism and Communication Department Effective Spring 2012	3 cr.
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## **Department of Languages, Philosophy and Speech Communication**

### New Course

ARBC 1800	Study-Abroad Arabic Language and Society I Effective Summer 2012	1-8 cr.
ARBC 2800	Study-Abroad Arabic Language and Society II Effective Summer 2012	1-8 cr.

## **College of Natural Resources**

### **Department of Environment and Society**

#### New Course

ENVS 6010	Applying Human Dimensions Concepts to Natural Resource Management Effective Spring 2012	3 cr.
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## **College of Science**

### **Department of Biology**

#### Prerequisite Change

PUBH 4030	Communicable Disease Control Prerequisite: BIOL 1610 or 2060 or 2420 Effective Fall 2012	3 cr.
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### **Department of Geology**

#### New Course

GEO 4800	Senior Seminar Repeatable for credit Pass/Fail only Prerequisite: Permission of instructor Effective Spring 2012	1 cr.
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#### Prerequisite Change, Course Description Change

GEO 3700	Structural Geology Prerequisite or corequisite: PHYS 2210 and 2215 Effective Summer 2012	4 cr.
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## **Department of Physics**

### **New Course**

PHYS 5700 Introduction to Microfabrication 3 cr.  
Prerequisites: PHYS 2210, 2215, 2225; permission of instructor  
Effective Spring 2012

## **Other Business**

Request from the Department of Watershed Sciences to remove the Aquatic Ecology specialization from the MS and PhD degrees in Fisheries Biology (see below)

Request from the Department of Agricultural Systems Technology and Education to eliminate the emphasis areas in the BS program in Agricultural Education (see below)

Request from Department of Languages, Philosophy and Speech Communication to change the name to the Department of Languages, Philosophy and Communication Studies AND to change the name of the Speech Communication BS and BA to Communication Studies (see below)

Request from the Department of English to remove the Plan B and replace it with a Plan C in the English MA and MS specialization in Technical Writing (see below)

Request from the Department of Nutrition, Dietetics and Food Sciences to add a Plan C option to the Master of Dietetics degree (see below)

Request from the Department of Nutrition, Dietetics and Food Sciences change the name of the Master of Food Microbiology and Safety to Master of Food Quality and Safety (see below)

Request from the Department of Applied Economics to offer a Master of Science in International Food and Agribusiness (see below)

Request from Department of Applied Economics to Bachelor of Science in Environmental and Natural Resource Economics (see below)

**CURRICULUM SUBCOMMITTEE MINUTES**  
**6 October 2011**

A meeting of the Curriculum Subcommittee of the Educational Policies Committee was held on 6 October 2011 at 2 p.m. in Old Main 136 (Champ Hall Conference Room).

Present:                               Richard Mueller, Chair (representing Ed Reeve)  
  Thomas Bunch, Agriculture  
  Darrin Brooks, Caine College of the Arts  
  Chris Skousen, Huntsman School of Business  
  Scott Hunsaker, Emma Eccles Jones College of Education and  
  Human Services  
  Patricia Gantt, College of Humanities and Social Sciences  
  Nancy Mesner, College of Natural Resources  
  Richard Mueller, College of Science  
  Wendy Holliday, Libraries  
  Travis Peterson, Regional Campuses and Distance Education  
  Norm Jones, General Education Subcommittee Chair  
  Steve Beck, Graduate Council (representing Shelly Lindauer)  
  Brett Healy, Graduate Studies Vice President (representing Cami  
  Jones)  
  Tanner Wright, Academic Senate President  
  Roland Squire, Registrar's Office  
  Cathy Gerber, Registrar's Office

Absent:                               Ed Reeve, College of Engineering  
  Susan Neel, USU-Eastern

Visitors:                             Larry Smith, Vice Provost  
  Noelle Cockett, Dean of College of Agriculture  
  Bruce Miller, Department Head, ASTE  
  Gary Stewardson, ETE Department  
  Kurt Becker, Department Head, ETE  
  Larry Hemingway, Acting Director of Aviation  
  Alexa Sand, Department of Art  
  Jamie Huber, WGS  
  Michele Hillard, Provost Office

The 1 September 2011 minutes meeting were approved.

Larry Smith moved to approve the business of the Provost Office. Scott Hunsaker seconded; motion carried. A statement will be added in the course description that differentiates work done for graduate credit.

**Provost Office**

**Center for Women and Gender**

Dual List Change

WGS 4900/6900	Directed Study: Women and Gender Studies Repeatable for credit Add dual list of WGS 6900 Effective Spring 2012	1-3 cr.
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Tom Bunch moved to approve the business of the College of Agriculture. Scott Hunsaker seconded; motion carried.

**College of Agriculture**

**Department of Agricultural Systems Technology and Education**

Prerequisite Change, Course Description Change, Add University Studies Designation

ASTE 4100	Agricultural Structures and Environment University Studies Designation: QI (effective Fall 2011) Prerequisite: ASTE 1010 or permission of instructor; QL Effective Summer 2012	3 cr.
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**Department of Landscape Architecture and Environmental Planning**

New Course

LAEP 6880	Landscape Architecture Research Methods Effective Fall 2011	2 cr.
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**Department of Plants, Soils and Climate**

Title Change

PSC 2600	Herbaceous Plant Materials Previously Annual and Perennial Plant Materials Effective Fall 2012	3 cr.
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Title Change, Course Description Change

PSC 5100	Professional Turf and Urban Landscape Water Management Previously Landscape Irrigation Management Effective Spring 2012	3 cr.
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Delete Course

PSC 4100	Landscape Water Conservation Effective Fall 2011	2 cr.
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PSC 4810	Professional Turfgrass Management Effective Fall 2011	2 cr.
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PSC 5610/6610	Plant Water Relations Effective Fall 2011	2 cr.
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PSC 6100 Landscape Irrigation Management 3 cr.  
Effective Fall 2011

Darrin Brooks moved to approve the business of the Caine College of the Arts. Tom Bunch seconded; motion carried.

**Caine College of the Arts**

**Department of Art**

New Course

ARTH 2730 Art of the African Diaspora 3 cr.  
Effective Fall 2011

ARTH 3200 Experiential Learning in Art History-Study Abroad 1-3 cr.  
Repeatable for credit  
Effective Fall 2011

ARTH 3840 Race and Visual Culture 3 cr.  
Effective Fall 2011

ARTH 4520 Discourses of Empire and Nation 3 cr.  
Effective Fall 2011

ARTH 4725 Land Art: Site-Specific Art in the Landscape 3 cr.  
Effective Fall 2011

ARTH 4900 Senior Capstone Research Seminar in Art History 3 cr.  
Prerequisite: 3000 or 4000 level Art History course  
Effective Fall 2011

Course Number Change, Title Change, Course Description Change

ARTH 4710 Feminist Theory and Practice in the Visual Arts 3 cr.  
Previously ARTH 5710, Gender Issues in Art  
Effective Fall 2012

Chris Skousen moved to approve the business of the Huntsman School of Business. Pat Gantt seconded; motion carried.

**Huntsman School of Business**

**Department of Economics and Finance**

New Course

ECN 4500 The Political Economy of the European Union 3 cr.  
Prerequisite: Permission of instructor  
Effective Fall 2011

Add University Studies Designation  
 ECN 5150 Comparative Economic Systems 3 cr.  
 University Studies Designation: CI/DSS  
 Effective Fall 2011

**(Approved via Electronic vote per April 2011 General Education Subcommittee minutes)**

Title Change, Course Description Change  
 FIN 4480 Derivatives Market 3 cr.  
 Previously Portfolio Theory and Risk Management  
 Effective Summer 2012

Scott Hunsaker moved to approve the business of the Emma Eccles Jones College of Education and Human Services. Tom Bunch seconded; motion carried.

**Emma Eccles Jones College of Education and Human Services**

Inactivate Course  
 EDUC 6700 Introduction to Behavioral Research in Education 3 cr.  
 Repeatable for credit  
 Retain SPED 6700  
 Effective Fall 2011

EDUC 7700 Single-Subject Research Methods and Designs 3 cr.  
 Repeatable for credit  
 Retain SPED 7700  
 Effective Fall 2011

**Department of Communication Disorders and Deaf Education**

Title Change  
 COMD 6340 Auditory Learning and Spoken Language for Children 3 cr.  
 with Hearing Loss  
 Previously Auditory Learning and Spoken Language for  
 Young Children with Hearing Loss  
 Effective Summer 2012

Credit Hour Change  
 COMD 6580 Family Centered Practices for Children with Hearing Loss 2-3 cr.  
 Previously 3 cr.  
 Effective Spring 2012

COMD 6770 Audiology and Teachers of Children who are Deaf and 1-3 cr.  
 Hard of Hearing  
 Previously 3 cr.  
 Effective Fall 2012

COMD 7320 Amplification I 3 cr.  
 Previously 1-4 cr.  
 Effective Fall 2012

Course Description Change  
COMD 7420 Amplification II 3 cr.  
Effective Spring 2012

**Elementary and Secondary Education Program (School of TEAL)**

Title Change, Course Description Change  
SCED 4200 Language, Literacy and Learning in the Content Areas 3 cr.  
Previously Reading, Writing and Technology  
University Studies Designation: CI  
Effective Fall 2012

TEAL 4745/6745 Second Language/Literacy Acquisition and Development 3 cr.  
Previously Second Language Acquisition in the Classroom  
Effective Fall 2012

TEAL 4760/6760 Foundations of Dual Language Immersion/ESL/Bilingual 3 cr.  
Education  
Previously Foundations of ESL/Bilingual Education  
Effective Fall 2012

TEAL 6230 Evidence-based Literacy Instruction for K-6 Learners 3 cr.  
Previously Literacy Learning in Early Childhood  
Effective Fall 2012

Course Description Change  
TEAL 7360 Research in Literacy 3 cr.  
Effective Fall 2012

**Department of Special Education and Rehabilitation**

New Course  
SPED 6770 Coaching and Systems Change 3 cr.  
Effective Fall 2011

Prerequisite Change  
SPED/PSY 5720 Assessment for Eligibility and Programming and IEP 3 cr.  
Development  
Prerequisite: Permission of instructor (Admission to Teacher Education  
not required)  
Effective Fall 2012

Scott Hunsaker moved to approve the business of the College of Engineering. Darrin Brooks seconded; motion carried.

**College of Engineering**

**Department of Biological Engineering**

Title Change, Course Description Change

BENG 1890 Introduction to Undergraduate Research and Engineering Design 1 cr.  
Previously Introduction to Undergraduate Research Methods  
Effective Fall 2012

Prerequisite Change

BENG 4880 Biological Engineering Design II 3 cr.  
University Studies Designation: CI  
Prerequisite: BENG 3870  
Prerequisite or Corequisite: BENG 3670/CEE 3670  
Effective Spring 2012

BENG 5020 Biological Systems Modeling and Controls 3 cr.  
Prerequisites: BENG 3670/CEE 3670 and MATH 2250  
Effective Fall 2012

**Department of Electrical and Computer Engineering**

New Course

ECE 2240 Electrical Circuits I 3 cr.  
Prerequisite: MATH 1220  
Prerequisite or Corequisite: MATH 2270  
Effective Fall 2012

ECE 5680 Transceiver Systems Engineering 3 cr.  
Prerequisite: ECE 3640 or equivalent. Not available to pre-majors.  
Effective Spring 2012

ECE 6040 Convex Optimization 3 cr.  
Effective Fall 2012

Title Change, Prerequisite Change, Course Description Change

ECE 3620 Continuous-Time Systems and Signals 3 cr.  
Previously Circuits and Signals  
Prerequisites: ECE 2250, MATH 2280 and CS 1410.  
Not available to pre-majors.  
Effective Fall 2013

ECE 3640 Discrete-Time Systems and Signals 3 cr.  
Previously Signals and Systems  
Prerequisite: ECE 3620. Not available to pre-majors.  
Effective Fall 2013

ECE 5630	Digital Signal and Image Processing Previously Introduction to Digital Signal Processing Prerequisite: ECE 3640 or equivalent. Not available to pre-majors. Effective Fall 2012	3 cr.
ECE 7630	Advanced Digital Signal and Image Processing Previously Advanced Digital Signal Processing Prerequisites: ECE 5630 and 6010. Prerequisite or Corequisite: ECE 6030 Effective Spring 2013	3 cr.
Title Change, Credit Hour Change, Prerequisite Change, Course Description Change		
ECE 2250	Electrical Circuits II Previously Electrical Circuits, 4 cr. Prerequisite: ECE 2240 Prerequisite or Corequisite: MATH 2280 Effective Fall 2012	3 cr.
Course Description Change		
ECE 5530	Digital System Design Effective Fall 2012	3 cr.
Delete Course		
ECE 1000	Introduction to Electrical and Computer Engineering Effective Fall 2012	2 cr.
ECE 6620	Introduction to Digital Image Processing Effective Fall 2012	3 cr.
ECE 7620	Advanced Digital Image Processing Effective Fall 2012	3 cr.
<b>Department of Mechanical and Aerospace Engineering</b>		
New Course		
MAE 2165	Material Science Laboratory Prerequisite or Corequisite: MAE 2160 Effective Spring 2012	1 cr.
MAE 5350	Kinematics Prerequisite: MAE 3320 Effective Spring 2012	3 cr.
MAE 5660	Manufacturing Processes Prerequisites: MAE 2165, 3040 and 3440 (may be taken concurrently) Effective Spring 2012	3 cr.

Pat Gantt moved to approve the business of the College of Humanities and Social Sciences. Nancy Mesner seconded; motion carried.

**College of Humanities and Social Sciences**

**Department of Journalism and Communication**

Department of Languages, Philosophy and Speech Communication

Course Description Change

LING 4400 Teaching Modern Languages 3 cr.  
Effective Fall 2012

Title Change, Course Description Change

SPAN 4200 Introduction to Hispanic Linguistics 3 cr.  
Previously Applied Spanish Linguistics and Phonetics  
Effective Spring 2012

**Department of Sociology, Social Work and Anthropology**

University Studies Designation

SOC 1020 Social Problems 3 cr.  
University Studies Designation: BSS  
Effective Fall 2011

Reactivate Course

SOC 3500 Social Psychology 3 cr.  
Effective Spring 2012

Nancy Mesner moved to approve the business of the College of Natural Resources. Tom Bunch seconded; motion carried.

**College of Natural Resources**

**Department of Environment and Society**

New Course

ENVS 6830/7830 Graduate Student Publishing Seminar 2 cr.  
Effective Fall 2011

GEOG 5600/6600 Theory and Practice of Development 3 cr.  
Effective Fall 2011

Delete Course

ENVS 4990 Environmental and Natural Resource Professionalism Seminar 2 cr.  
Effective Fall 2012

Pat Gantt moved to approve the business of the College of Science. Darrin Brooks seconded; motion carried.

**College of Science**

**Department of Biology**

Course Description Change

BIOL 2060 Elementary Biology 4 cr.  
Effective Spring 2012

Remove University Studies Designation  
BIOL 3010 Evolution 3 cr.  
University Studies Designation: DSC  
Remove University Studies Designation of CI  
Effective Spring 2012

Prerequisite Change  
BIOL 3300 General Microbiology 4 cr.  
Prerequisite: BIOL 1610 (with a grade of C- or better); CHEM 1120 or 1220 or 2300 or 2310 (may be taken concurrently). To receive University Studies Breadth Life Sciences (BLS) credit, students must complete both BIOL 1610 and 3300. The BIOL 1610 and 3300 option for BLS credit is available only to students majoring in Biological Engineering or Environmental Engineering.  
Effective Spring 2012

### **Department of Computer Science**

Prerequisite Change  
CS 3200 Mobile Application Development 3 cr.  
Prerequisites: CS 2410 and 2610 OR CS 2412 and 2612  
Effective Spring 2012

CS 5460 Computer Security I 3 cr.  
Prerequisites: 2.0 GPA, grade of C- or better in CS 2420 and CS 3100.  
Not available to pre-Computer Science majors.  
Effective Summer 2012

### **Department of Geology**

Title Change  
GEO 5630 Geologic Image Analysis 3 cr.  
Previously Photogeology and Image Analysis  
Effective Spring 2012

### **Other Business**

Darrin Brooks moved to approve the request from the Department of Art to offer a Bachelor of Arts in Art History. Norm Jones seconded; motion was approved, with revised proposal being sent to Larry Smith.

The request from the English Department to change the English master's degree specialization in Technical Writing Plan B to a Plan C specialization was withdrawn from the agenda.

Tom Bunch moved to approve the request from the College of Agriculture and the College of Engineering to restructure the Department of Engineering and Technology Education. Nancy Mesner seconded; motion approved. (see attachment)

Noelle Cockett, Dean of the College of Agriculture, presented the proposal along with supporting information from Bruce Miller, Gary Stewardson, Kurt Becker and Larry Hemingway.

The General Education Subcommittee, on September 20, 2011, approved the enforcement of the rule that CI courses must be upper division. The following courses will be losing the CI designation effective Summer 2012.

COMD 2910	MUSC 1460
CS 2450	MUSC 1470
JCOM 2160	OSS 1550
LAEP 2700	SPCH 1020
MIS 2200	SPCH 2110

An update on the new electronic approval process for the course approval form was given by Michele Hillard, Provost Office. A request to have the College Curriculum Committees included in the work flow process will be taken under consideration. This form will probably be application based. The Curriculum Subcommittee will be given updates on the progression of this form.

It was suggested that previous Course Approval forms be archived and to begin saving these forms electronically once the new form is in place.

Meeting adjourned 2: 55 p.m.  
Richard Mueller conducted the meeting.  
Cathy Gerber recorded the minutes.



## 5.4 Transfer, Restructuring, or Consolidation of Existing Programs

### Section I: Request

The Department of Watershed Sciences at Utah State University seeks to remove the "Aquatic Ecology" specialization from the MS and PhD degrees in Fisheries Biology. No impact to instructional activities is expected.

### Section II: Need

The "Aquatic Ecology" specialization is already and more appropriately housed under the MS and PhD degree in Ecology administered through the Department of Watershed Sciences.

### Section III: Institutional Impact

The proposed change will not affect enrollments in the instructional programs of affiliated departments or programs, nor will administrative structures be affected.

### Section IV: Finances

No additional costs or savings are anticipated from this change.

**Institution Submitting Proposal:** Utah State University

**College, School or Division in Which Program/Administrative Unit Will Be Located:** College of Agriculture

**Department(s) or Area(s) in Which Program/Administrative Unit Will Be Located:**  
School of Applied Sciences, Technology and Education in the Department of  
Agricultural Systems Technology and Education

**Program/Administrative Unit Title:** Agricultural Education

**Proposed Beginning Date:** August 1, 2012

**Institutional Signatures:**

Raymond T. Coward, Chief Academic Officer: \_\_\_\_\_

Noelle Cockett, Dean, College of Agriculture: \_\_\_\_\_

Bruce Miller, Head, ASTE Department: \_\_\_\_\_

## **Section I: Request**

Utah State University proposes to eliminate the emphasis areas in the Bachelor of Science degree program in Agricultural Education effective Fall Semester 2012. The four emphasis areas will be replaced by a single set of requirements for the technical agriculture courses related to this major. Students will still be allowed to concentrate in the areas currently represented by the emphasis areas through the use of specified elective courses.

## **Section II: Need**

Currently, the Bachelor of Science degree in Agricultural Education offers four emphasis areas. These emphasis areas include *Production and Processing*, *Horticulture*, *Natural Resources*, and *Agricultural Systems Technology*. These emphasis areas were designed to be aligned with career pathways in agriculture as well as to allow students who had studied related majors to move easily into the teacher education program under agricultural education. However, all four emphasis areas lead toward one general teacher license area through the Utah State Office of Education. The four emphasis areas have resulted in a lack of consistency in the preparation of teachers, confusion in the advising of students, and varied success on the content knowledge exam required for licensure. Utah State University is the only institution in Utah that prepares students for licensure in agriculture. These changes have been approved by the agricultural education specialist in the Utah State Office of Education and will result in a degree program more similar to other institutions in the Intermountain West and throughout the U.S.

## **Section III: Institutional Impact**

The single track of major requirements will result in simplified advising of students as well as greater consistency in the preparation of secondary agriculture teachers. Students who enter the program from other program areas (e.g., horticulture or natural resources) as transfer students or as second bachelor's degree students will still be accommodated through the breadth of the technical agriculture course requirements and through the technical agriculture concentration/elective courses. It is anticipated that the elimination of the emphasis areas will not have any negative impacts on student enrollment.

## **Section IV: Finances**

The elimination of the emphasis areas will not require any new physical facilities or fiscal resources.

## R401 Abbreviated Proposal for Name Change of Existing Program Utah State University

### Section I: The Request

Utah State University requests approval to change the name of the Speech Communication major to Communication Studies. This change would change the name of the Languages, Philosophy and Speech Communication department to the Department of Languages, Philosophy and Communication Studies.

### Section II: Need

This request is made for two major reasons: to better fit with our national academic discipline and, most importantly, to better meet the needs and interests of our students.

Although once the most common moniker, the name of speech communication is now rarely used in the academic field in which our speech communication program functions. The major association in this field, the National Communication Association, used to be called the Speech Communication Association. In the late 1980's there began to be talk that this name was misleading and overly narrow given the broad range of communication foci (organizational, interpersonal, intercultural, rhetorical, and many more) taught in the various departments. After much discussion and overcoming the natural resistance to changing a name that incorporated a lot of tradition, the organization officially changed its name to the National Communication Association (NCA) in 1997. Many departments had already changed their names by that time, but a flood of changes occurred after that switch was made.

This fall (2011) we received from the NCA an attachment requesting information. In that attachment was a list of the names of all 719 member departments in NCA. Because the question of program name had come up, we decided to see what the common program names in the NCA are. About 75% of the names are simply Communication or add the word Studies to the name (one-third of these use the Communication Studies title). The next most popular title is Communication Arts, which is used by roughly 9% of the departments. The title "Speech Communication" is used by only 27 of the 719 departments (just under 4%). There are a variety of other titles used, such as Strategic Communication, Communication Sciences, Rhetoric and Communication, etc., but the main thing that stuck out to us was how rarely the title speech communication is now used. The title of speech communication currently dates the department in a way that is not accurate (too limited) in terms of what our faculty members study and the education our students receive. Although just the word Communication is the most common title, the overwhelmingly next most common title is Communication Studies and that is the one we are requesting.

USU already has another department that uses just the noun "communication," the Department of Journalism and Communication. That program in that department is distinct in many ways from the one we currently call speech communication. The Accrediting Council for Journalism and Mass Communication program lists all 111 program members who have the accreditation and I noticed some telling differences in this list compared to the one from the NCA (formerly Speech Communication). The word Journalism is used in 66% of the 111 program titles (compared to being used in only 2% of the NCA departmental members) and the term Mass Communication was used in roughly 33% of the titles (often Journalism and Mass Communication). In contrast, the term Mass Communication was only used by 9 of the 719 NCA members for just over 1%. The most telling item was that the phrase Communication Studies was not used even once in the 111 accredited members of AEJMC. Thus our use of the title Communication Studies will clearly associate our program with the national academic field we are part of and at the same time it is clearly distinct from the national academic field that deals with journalism and mass communication. It is worth noting that 7 of the 10 peer institutions recognized by the Board of Regents in July of 2011 also use the title "Communication Studies" for their programs that compare to our speech communication program (these institutions all have separate Journalism and Mass Communication departments just as we do here at USU).

Now we will turn to the second major reason we are making this request. One of the key catalysts for this request comes from interviews with students about to graduate. At the end of our capstone course we visit with each student individually to ask them set questions about the major. At the end of the interview the students were asked an open-ended question, "So, if you could improve something about the program, what would it be?" There were three recurring answers, nothing, offer more classes, and change the name from speech communication to something else. The students felt the name was too narrow and often misled people about what they were studying. They also expressed that a name change would be useful to them as they move forward in their careers. The consistency of this last response surprised us, not because we have not had students bring this up before, because we have previously had an individual student here and there raise this issue. However, the sheer consistency of the answer when there was no real prompt to suggest it was telling.

We have subsequently taken a survey of the majors and more than two-thirds (just over 69%) would like to see a name change. Given the positive regard in which our students hold the current program (based on recent reviews), this is an exceptionally high number of students who are desirous of a change. In addition, if there is a change, 77% of our majors would prefer "Communication Studies," compared to 17% who would choose "Communication Arts" and 6% who pick some other name. The comments from the students have been very positive toward this change, many noting that it will help avoid confusion with speech pathology programs or artificial limitations others may assume about what our students have studied.

### **Section III: Institutional Impact**

No changes in faculty, staff, or facilities are anticipated as a result of this change. As explained in the needs section, the change will better position the department and the students graduating from this major. It will identify the major within the department more accurately with the national field and give the department a name that better fits the current field. The students will also be better served as they look forward to going to graduate school or moving forward with their careers.

### **Section IV: Finances**

There will be some very minor costs as we transition to the new name that the department will cover, but no significant budgetary impact is anticipated as a result of this name change.

## **R401-5. Request for Restructuring of an Existing Program**

### **Section I: Request**

The Utah State University English Department requests that its English master's degree specialization in Technical Writing, which was approved for online delivery in 1998 as a 30-credit Plan B specialization, be changed to a 33-credit Plan C specialization. No impact on the program is anticipated.

### **Section II: Need**

The Technical Writing master's degree specialization is offered online to serve a non-traditional student population of working professional communicators—students who work as editors, software documentation writers, publications managers, website developers, etc.

Plan C would allow the Technical Writing specialization to recruit and graduate students who live and work anywhere in the world where there is internet access, without requiring them to travel to Logan to complete the degree. Plan C would help the specializations better achieve its mission and goals of serving nontraditional students who work full time as professional communicators, and it would allow the specialization to compete better with other online technical communication programs around the country.

### **Section III: Institutional Impact**

No institutional impact is expected from changing the specialization from Plan B to Plan C.

### **Section IV: Finances**

No financial impact is expected from changing the specialization from Plan B to Plan C.

**Institution Submitting Proposal:**

Utah State University

**College, School or Division in Which Program/Administrative Unit Will Be Located:**

College of Humanities and Social Sciences

**Department(s) or Area(s) in Which Program/Administrative Unit Will Be Located:**

English

**Program/Administrative Unit Title:**

Master's degree program in English

**Recommended Classification of Instructional Programs (CIP) Code:**

23.1101

**Certificate, and/or Degree(s) to Be Awarded:**

MA/MS in English

**Proposed Beginning Date:**

Program already exists.

**Institutional Signatures (as appropriate):**

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Jeannie Thomas  
Department Head, English

---

John Allen  
Dean, College of Humanities and Social Sciences

---

Mark R. McLellan  
Vice President for Research & Graduate School Dean

---

Raymond Coward  
Provost, Executive Vice President

---

Stan Albrecht  
President

**Date:** October 19, 2011

## **Section 1: Request**

The present online Master of Dietetics Administration (MDA) degree offered by the Department of Nutrition, Dietetics, and Food Sciences, which is part of the College of Agriculture at Utah State University, is proposing to add a Plan C option. The Plan C option would be a coursework only option requiring 41 credits total.

## **Section II: Need**

Each year 60 students complete the Utah State University Dietetics Distance Internship. As graduates of that program they are eligible to complete the Master of Dietetics Administration degree. However, as the program currently offers only a Plan B option, enrollment is limited by the number of faculty available to serve on graduate committees. Currently only 27% of qualified applicants are accepted for the Plan B option. A recent demand survey of USU Dietetics Distance Internship graduates from the past 5 years indicated that 87% of distance internship graduates (equivalent to approximately 50 students each year) are interested in the MDA program. However, 69% cite the cap on enrollment and competition to get in as major hindrances to applying. The professional nature of the MDA degree is conducive to a Plan C option. The program is a unique professional degree offered in partnership with the USU Dietetics Distance Internship. Its goal is to prepare students to move into management positions in health care, food service, and community nutrition programs. A Plan C option would require more credits to complete with a focus on professional skill development as is consistent with other professional programs including MPA/MBA programs. It would be taught by adjunct faculty, currently working in the field of dietetics administration. With the elimination of the graduate committee, the Plan C option would also allow for higher enrollment.

## **Section III: Institutional Impact**

Utah State University Distance Internship graduates will be the source for enrollment in the Plan C option. Because of the specific pool of candidates, the Plan C option will not compete with enrollment in affiliated graduate programs. The opportunity to complete a graduate degree in distance format and using credits from the internship experience may also increase interest in the USU Distance Internship. The new option will include two additional electives; Advanced Dietetics Practicum and Entrepreneurial Skills in Dietetics and taught by currently appointed adjunct faculty working in dietetics administrative positions in the community. No new faculty assignments will need to be made and no physical facilities will be required. Program delivery via online format through Regional Campuses will continue as currently administered. The Plan C option will allow more students to be accepted without the burden on faculty for graduate committees.

## **Section IV: Finances**

The Plan C option will entail additional costs for adjunct faculty compensation and equipment/technology related to online delivery of the program estimated at approximately \$11,500 annually. Financial projections indicate that enrollment of 15 students each year will yield more than double the estimated additional costs.



## Course Requirements

### Plan B Project Track (Current Program)

#### Transfer Courses from USU DI

- NDFS 6350/ 6360 Food Service Intern I and II 12 credits
  - NDFS 6050/6060 Community Intern I and II 6 credits
  - NDFS 6250/6260 Clinical Intern I and II 8 credits
- 26 credits**

#### Courses Required for MDA

- NDFS 6770 Advanced Management of Dietetics I 3 credits
  - NDFS 6780 Advanced Management of Dietetics II 3 credits
  - NDFS 7800 Dietetics Graduate Seminar 1 credit
  - NDFS 6970 Project 2 credits
  - Quantitative/ Research Elective 3 credits
  - Skills Enhancement Elective 3 credits
- 15 Credits**

#### Quantitative/ Research Elective Course Options

- EDU 6010 Intro to Program Evaluation
- STAT 3000 Statistics for Scientists
- MGT 3700 Operations Management
- FIN 3400 Corporate Finance
- PUBH 4040 Fundamentals of Epidemiology

#### Skills Enhancement Elective Course Options

- INST 6760 Grant Writing
- PSY 5200 Introduction to Interviewing and Counseling

## Course Requirements

### Plan C – Course Work only Track (Proposed)

#### Transfer Courses from USU DI

- NDFS 6350/ 6360 Food Service Intern I and II 12 credits
  - NDFS 6050/6060 Community Intern I and II 6 credits
  - NDFS 6250/6260 Clinical Intern I and II 8 credits
- 26 credits**

#### Courses Required for MDA

- New Course: Entrepreneurial Skills in Dietetics 3 credits
  - NDFS 6750 Advanced Dietetic Practicum 3 credits
  - NDFS 6770 Advanced Management of Dietetics I 3 credits
  - NDFS 6780 Advanced Management of Dietetics II 3 credits
  - Quantitative/ Research Elective 3 credits
  - Skills Enhancement Elective 3 credits
- 18 Credits**

#### Quantitative/ Research Elective Course Options

- EDU 6010 Intro to Program Evaluation
- STAT 3000 Statistics for Scientists
- MGT 3700 Operations Management
- FIN 3400 Corporate Finance
- PUBH 4040 Fundamentals of Epidemiology

**Skills Enhancement Elective Course Options**

- INST 6760 Grant Writing
- PSY 5200 Introduction to Interviewing and Counseling

**R401 Master of Food Quality and Safety**

**Institution Submitting Proposal:**

Utah State University

**College, School or Division in Which Program/Administrative Unit Will Be Located:**

College of Agriculture

**Department(s) or Area(s) in Which Program/Administrative Unit Will Be Located:**

Department of Nutrition, Dietetics and Food Sciences

**Program/Administrative Unit Title:**

Department of Nutrition, Dietetics and Food Sciences

**Recommended Classification of Instructional Programs (CIP) Code:**

01.1099

**Certificate, and/or Degree(s) to Be Awarded:**

Master of Food Safety and Quality

**Proposed Beginning Date:**

Fall 2011

**Institutional Signatures:**

\_\_\_\_\_  
Department Head

\_\_\_\_\_  
College Dean

\_\_\_\_\_  
Graduate School Dean

\_\_\_\_\_  
Provost

\_\_\_\_\_  
President

**Date:**

### **Section I: Request**

The current Master of Food Microbiology and Safety degree offered through the Nutrition, Dietetics and Food Sciences Department at Utah State University is a professional (Plan C) degree that provides educational opportunities for graduate students in food science and other technology areas related to the manufacture of foods. It is requested that the name of the degree be changed to “Master of Food Quality and Safety (MFSQ)”, in keeping with the food industry’s increasing emphasis on the production of safe and wholesome food.

### **Section II: Need**

Increasing attention is being given to the production and availability of food worldwide, as well as assuring consumers of safe food products. In keeping with this increased emphasis, there is greater need for strategies that can be adopted within the food manufacturing and distribution processes to ensure both quality and safety of food. The terms “quality” and “safety” represent the interdisciplinary nature of the food science program currently available through the USU Department of Nutrition, Dietetics and Food Sciences, which includes an emphasis on microbial and non-microbial aspects of food manufacturing. The department’s graduate program focuses on preparing students for career pathways in these areas. The proposed Master of Food Quality and Safety (MSFQ) degree, which utilizes existing graduate level courses that are currently offered by the Nutrition, Dietetics and Food Sciences Department and other departments at Utah State University, is a name change of the existing Master of Food Microbiology and Safety degree, in keeping with emerging food industry emphases.

### **Section III: Institutional Impact**

The number of credits required for the proposed MFQS degree is the same as the Master of Food Microbiology and Safety degree. Therefore, this request has no impact on the University or the department.

### **Section IV: Finances**

The proposed change in the Master degree name will not result in changes in finances coming to the University or the department.

**Institution Submitting Proposal:** Utah State University

**College, School or Division in Which Program/Administrative Unit Will Be Located:** College of Agriculture

**Department(s) or Area(s) in Which Program/Administrative Unit Will Be Located:** Department of Applied Economics

**Program/Administrative Unit Title:** Master of Science in International Food and Agribusiness

**Recommended Classification of Instructional Programs (CIP) Code:** 52.1101

**Certificate, Diploma and/or Degree(s) to be Awarded:** Master of Science

**Proposed Beginning Date:** July 1, 2012

**Institutional Signatures (as appropriate):**

Raymond T. Coward, Chief Academic Officer: \_\_\_\_\_

Mark R. McLellan, Dean, School of Graduate Studies: \_\_\_\_\_

Noelle Cockett, Dean, College of Agriculture: \_\_\_\_\_

Paul M. Jakus, Head, Applied Economics: \_\_\_\_\_

**Executive Summary  
Utah State University  
Master of Science in International Food and Agribusiness**

**Program Description**

The Master of Science in International Food and Agribusiness (MS-IFAB) is aimed at students seeking an advanced, terminal degree focused on the global food production and distribution network. The MS-IFAB will be administered by the Department of Applied Economics (APEC) at Utah State University. The proposed degree will make use of existing courses in APEC, as well as courses offered by the Royal Agricultural College (RAC) in Cirencester, UK. The curriculum will consist of fifteen credits of required courses in applied economics and agribusiness at USU and nine credits of required courses at the RAC. Students writing a Plan A thesis will require six thesis hours; those choosing to write a Plan B professional paper will need an additional three elective credits and three thesis credits. The MS-IFAB degree program will operate in conjunction with the long-running graduate exchange program with the RAC.

**Role and Mission Fit**

As the state's Land Grant institution, Utah State University's mission includes research and graduate education in areas including agriculture, engineering, and the sciences. The proposed MS in International Food and Agribusiness degree advances the core values of the institution by providing students opportunities for learning and discovery in world food production and markets, as well as individual development. The degree complements APEC's undergraduate degree programs in Agribusiness, International Agribusiness, and Agricultural Economics, as well as APEC's on-going student exchange program with the RAC.

**Faculty**

Five APEC faculty members will be responsible for instruction in the agribusiness and economics portions of the USU curriculum contributing to the MS-IFAB degree.

	Tenure	Contract	Adjunct
Number of faculty with Doctoral degrees	5	0	0
Number of faculty with Master's degrees	0	0	0
Number of faculty with Bachelor's degrees	0	0	0
Other Faculty	0	0	0

In addition to these five USU faculty, three faculty members at the RAC, all with doctoral degrees, will assume instructional responsibility for the components offered in the United Kingdom.

**Market Demand**

According to the 2010-11 Occupational Outlook Handbook (OOH), jobs in occupations associated with the MS-IFAB degree (financial manager, marketing and/or sales manager, agricultural credit manager) are predicted to increase 7-10% in the 2008-2018 period.

**Student Demand**

A small increase in student demand is anticipated relative to the current exchange program once USU offers the MS-IFAB degree. In addition, some students currently receiving a two-year Master's degree

from the Royal Agricultural College may choose the MS-IBAF degree from USU. Due to the "double-counting" rules of the School of Graduate Studies, students who have received a degree from the Royal Agricultural College using courses taken at USU will not be eligible to have a degree awarded by USU.

**Statement of Financial Support**

The program will be supported using already appropriated E&G funds, funds available from the Utah Agricultural Experiment Station, and funds associated with grants and contracts.

Legislative Appropriation .....  
Grants..... X  
Reallocated Funds.....  
Tuition dedicated to the program .....  
Other ..... X

**Similar Programs Already Offered in the USHE**

The Department of Applied Economics offers an MS-Economics and Statistics and an MS-Applied Economics degree with a specialization in Agricultural Economics. Compared to the proposed MS-IFAB degree, the MS-Economics and Statistics is a highly theoretical, non-terminal degree whereas the MS-Applied Economics has a greater focus on microeconomic theory and methods. The MS-IFAB will center on the tools of management and strategy in the policy-restrictive yet globally competitive environment of agribusiness. No similar graduate program is offered at any other USHE institution.

## Section I: Request

Utah State University requests approval to offer a Master of Science in International Food and Agribusiness effective Fall Semester 2012. This program has been approved by the Board of Trustees of Utah State University on \_\_\_\_\_

## Section II: Program Description

### Complete Program Description

The Master of Science in International Food and Agribusiness is a terminal degree. The program will be administered by the Department of Applied Economics and will use only existing courses. The degree focuses on the global competitive environment in food production and agribusiness. Graduates will have a firm grasp of U.S. agricultural policy, production, pricing and supply chain distribution, and statistical methods of analyses. An essential curricular component occurs during a semester spent at the Royal Agricultural College located at Cirencester, UK, where students will interact with agribusiness students from every continent of the world. While at the RAC, students will study financial management, strategic decision making, and the agricultural supply chain within the context of the Common Agricultural Policy of the European Union.

### Purpose of Degree

USU's graduate-student exchange relationship with the Royal Agricultural College began in 1999 as part of a joint U.S. Department of Education-European Union program entitled Fund for the Improvement of Post-Secondary Education (FIPSE). Four U.S. institutions were involved (the others were Arizona State, Clemson, and the University of Kentucky). Participating students were to spend the fall semester at a US institution and then relocate to the U.K. for the spring semester at the RAC, returning to a "home" institution to write a thesis. According to the FIPSE guidelines, students completing the program were to receive a degree called International Food and Agribusiness MBA (commonly called the "IMBA"). Due to accreditation requirements of the Association to Advance Collegiate Schools of Business (AACSB) and perceived competition for USU's College of Business MBA, USU never granted the IMBA degree. Instead, participating students—both domestic and international—received the IMBA from the RAC.

Since the beginning of its exchange program with USU in 1999, over 60 students have participated in the USU portion of the program, about half from the United States and half from Europe, South America, and Africa. The popularity of the program has been sustained despite the fact that the initial FIPSE grant expired several years ago. Whereas the other U.S. institutions no longer participate in the exchange program in any meaningful way, USU has enjoyed a steady stream of students from Utah, other western states, and abroad.

USU has continued the exchange relationship with the RAC for many reasons. First, the domestic and international students attracted to the program have been outstanding; of the RAC's many exchange partners around the globe, students who spent their fall semester at USU have won the "top dissertation [thesis]" award more than 50% of the time since 1999. USU faculty working on RAC dissertations have enjoyed numerous refereed publications resulting from this work. Perhaps the most important factor for continued participation in the program has been the subsequent professional success of students. Domestic graduates from the program have gone on to successful careers with organizations such as the Iowa Farm Bureau, Western Ag Credit, Innovar, Pfizer, Glanbia, and Zion's Bank; at least two have gone



on to law school. The very first student from USU to participate as an exchange student at the RAC is now Vice-President for Rabo Agrifinance and Rabobank International.

While these successes have been gratifying from an educational perspective, the Department of Applied Economics has been unable to offer a USU degree. In short, this proposal seeks to remedy that problem. With the expiration of the FIPSE grant the name of the degree is no longer mandated. The institutional hurdles to establishing a degree program at USU are also reduced. The Department of Applied Economics is now housed solely within the College of Agriculture. The proposed degree, MS-International Food and Agribusiness, does not impinge upon the Huntsman School of Business and its AACSB accreditation. Indeed, this proposal has been vetted by the Huntsman School, which has no objection.

Representatives of the RAC have long been aware of the one-sided degree situation, and have worked proactively with APEC faculty and administration to find a solution, which is described within this proposal for an MS-IFAB. USU School of Graduate Studies procedures are such that students who receive an IMBA degree from the Royal Agricultural using USU coursework will be ineligible to receive the MS-IFAB from USU. Per SGS guidelines, 12 credit hours taken at the RAC will count toward the MS-IFAB.<sup>1</sup>

### **Institutional Readiness**

The Department of Applied Economics includes 11 faculty members holding the rank of Assistant Professor or higher, and one Extension Specialist holding an MS degree. Four faculty members have been hired since 2009. All faculty members holding the PhD degree teach one or more graduate level courses and/or supervise theses or dissertations. Five faculty members will be responsible for handling the core curriculum of the proposed degree (Appendix C). Other faculty members in the APEC Department may choose to be involved in the supervision of theses and projects (Appendix C).

### **Faculty**

APEC currently offers three graduate degrees: an MS in Applied Economics, an MS in Economics and Statistics (jointly administered with the Department of Mathematics and Statistics), and a Ph.D. in Economics. The proposed MS in International Food and Agribusiness will require no new courses (Appendix A). Of the five core (required) courses in the new degree, APEC will staff four courses, the Department of Management will offer one, and twelve credits will come from courses taken at the Royal Agricultural College.

### **Staff**

A slight increase in the number of students in the MS-IFAB degree is anticipated. Students will be advised and mentored by existing APEC faculty and therefore, no additional staff will be required.

### **Library and Information Resources**

No additional library resources are necessary to support the degree. Graduate student space in the College of Agriculture building under construction will be adequate to serve all APEC graduate programs. APEC will continue to operate a small computer lab for the benefit of graduate students in APEC. Graduate students and faculty may also use Utah State University's High Performance Computing facility for computationally intensive projects.

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<sup>1</sup> Courses (modules) are listed in Appendix D.

## **Admission Requirements**

The admission requirements will be consistent with the existing School of Graduate Studies (SGS) admission requirements. Admission will require a minimum grade point average (GPA) of 3.0 (4.0 = A) for the last 60 semester credits earned prior to applying for the program. The Graduate Record Examination (GRE) will be required; the School of Graduate Studies requirements will be applied for the GRE, including scores at or above the 40<sup>th</sup> percentile in the quantitative and verbal sections of the exam. Per USU admissions policy, a minimum TOEFL score will be required of all students whose native language is not English.

Specific educational requirements will be required, including bachelors (BA or BS)-level (or above) courses in an economics or business related discipline. A student whose prior academic performance warrants admission, although some prerequisite courses have not been taken, may be admitted provisionally, or be required to complete all or some of the Huntsman School of Business Accelerated Business Curriculum to gain admission. As stated on the Huntsman School webpage,

The Accelerated Business Core (ABC) at Utah State University is an intensive, one-semester (summer) course of study specially designed for non-business undergraduate degree holders who wish to pursue graduate degrees in business. The ABC provides an exposure to the core business functional areas to build an understanding of the context in which business decisions are made. Passing the ABC will satisfy most prerequisite business course requirements to begin advanced study in various graduate business programs (MBA, MSHR, IMBA, etc.)

APEC plans to continue its graduate student exchange relationship with the Royal Agricultural College. Students who wish to receive a degree from USU must apply directly to the Utah State University School of Graduate Studies. Students wishing to receive a degree from the RAC will be directed to apply through that institution and come to USU as an exchange student.

## **Student Advisement**

APEC has a designated Graduate Program Director, elected according to faculty bylaws. In recent years the compensation for this departmental service has been a one course reduction in assigned teaching load. The graduate director will chair a Graduate Education and Research Committee composed of members appointed by the APEC department head. The committee will be responsible for admissions decisions. The Graduate Program Director, in consultation with a student's major professor, will be responsible for student advising. If a major professor has not yet been selected at the time of admission, advisement responsibility for the student will be assigned to the Director. The proposed degree will require no additional resources for student advisement.

## **Justification for Graduation Standards and Number of Credits**

The MS-IFAB will be offered as a Plan A (24 credit hours of academic course work and six credit hours of research credits) or Plan B (27 hours coursework and three hours research). Demonstration of analytical thinking and effective communication is essential in a globally competitive market; thus, Plan C degrees (coursework only) will not be awarded. Appendix A provides the curricula of the current and proposed master's degrees. Per School of Graduate Studies standards, the minimum overall GPA for successful completion of the degree will be 3.0.

## External Review and Accreditation

The discipline of Economics and its fields, including Agribusiness, has no accrediting body. Instead, the former Department of Economics has been periodically reviewed by the USDA. APEC plans to maintain these regular external institutional reviews. According to the USDA, the agency conducts reviews,

...at the request of cooperating institutions, facilitates reviews of institutions, departments, programs, or issues...Institutions identify the purpose, objectives, and scope of the review activity based on their own needs and internal planning processes. Preparation of a forward looking planning document by the reviewed entity is an integral part of the review activity. Generally, the internal review process is followed by an in depth on-site visit by an external team of well qualified peers lasting two or more days, depending on the scope and complexity of the activity as determined by the institution. The external team of reviewers can help the institution project future needs and directions for the reviewed entity for some definitive time frame into the future based on the self-study document and the site visit.<sup>2</sup>

Modules offered at the Royal Agricultural College are subject to validation by the Quality Assurance Agency for Higher Education in the UK. The RAC benchmarks are assessed according to Type 2 Master's degrees for Business and Management. Such programs are

... designed to develop master's level knowledge and skills in business and management subjects to enhance the utility and employability of the first discipline. They aim to prepare individuals for employment either related to their first degree discipline or in a management role and may be linked to professional institute qualifications. In both cases, graduates will develop a sound understanding of business/organisational contexts and thus should be able to make an early and significant contribution to their employer.<sup>3</sup>

## Projected Enrollment

Year	Student Headcount	Student-Faculty Ratio*
2011-12	6	10
2012-13	6	10
2013-14	6	10
2014-15	6	10
2015-16	6	10

\* Note: The proposed degree will be offered using existing courses in the MS-Applied Economics curriculum. The average Student Faculty ratio for the Applied Economics department for Basic Graduate instruction is 10:1.

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<sup>2</sup> [http://www.nifa.usda.gov/about/prog\\_reviews.html](http://www.nifa.usda.gov/about/prog_reviews.html)

<sup>3</sup>

<http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/BusinessManagementMasters.pdf>

## **Expansion of Existing Program**

The proposed degree does not represent an expansion of current programs.

## **Section III: Need**

### **Program Need**

The proposed Master of Science in International Food and Agribusiness will serve as a terminal degree. According to a recent survey of food production and global food needs by the Economist (February 24, 2011), the world's population is expected to grow by 2 billion, to 9 billion people by the year 2050. The survey expresses great confidence that while technically possible to produce enough food to serve 9 billion people, improvements cannot be solely technological in nature. "[A] big part of the answer...is to shift agricultural policy from inefficient subsidies and perverse price distortions to improved pricing, distribution and management of food that minimizes waste and eliminates trade barriers." The policy, pricing, and logistical solutions outlined in the Economist fall within the purview of the future graduates of this program.

### **Labor Market Demand**

Graduates from the proposed MS-IFAB will have the same employment prospects as those from the IMBA. These prospects range from sales positions in large pharmaceutical firms (e.g., Pfizer, \$68 billion in 2010 revenue, \$9 billion in its animal health division), to the agricultural finance industry, both large (e.g., Rabobank, \$800 billion in 2010 assets) and small (e.g., Western Ag Credit, \$500 million in 2010 assets). Others have been employed doing product sales and logistics for large international concerns (e.g., Glanbia, almost \$3 billion in 2010 revenue). The Occupational Outlook Handbook does not distinguish between agricultural finance or management and similar positions in other industries. The 2010-11 OOH finds that job growth for financial managers, wholesale and manufacturing sales, and credit officers is predicted to be 7-10% for the 2008-2018 period. With regard to wages, the OOH predicts that:

"Median annual wages, excluding annual bonuses and stock options, of wage and salary financial managers were \$99,330 in May 2008. Median annual wages of wage and salary loan officers were \$54,700 in May 2008. Median annual wages of sales representatives, wholesale and manufacturing, technical and scientific products, were \$70,200, including commissions, in May 2008."

### **Student Demands**

A small but steady demand is anticipated, on par with past numbers in the RAC exchange program. In recent years the RAC exchange program has averaged about 5-6 students per year. The MS-IFAB degree from USU may result in an increase in student numbers, but only incrementally. It should be noted that all of the required USU courses in the MS-IFAB degree are required in other degree programs of APEC or within the Huntsman School of Business, so students from the MS-IFAB will take courses already offered to students pursuing other USU degrees.

### **Similar Programs**

The only institution in the Intermountain Region with a similar program is Arizona State University, an original signatory to the FIPSE grant in the late 1990s. ASU no longer supports this program and, in recent years, has sent interested students to USU.

### **Collaboration With and Impact on other USHE Institutions**

No other program is similar to the MS-IFAB is offered at any USHE institution.

### **Benefits**

The proposed degree allows APEC and USU to graduate students for whom it is already expending faculty resources, while maintaining a close collaborative relationship with an important European partner. Students who have graduated from the current exchange program with the RAC have been highly successful and remain loyal to USU, yet have no official connection to USU. The proposed degree appropriately acknowledges faculty effort and student success.

### **Consistency with Institutional Mission**

As the state's Land Grant institution, Utah State University has a mission in research and graduate education. The proposed degree fits well within USU's historical teaching, research, and outreach mission to those in the agricultural industry. By definition, the MS-IFAB degree is also consistent with the research mission of APEC and the USU College of Agriculture.

## **Section IV: Program and Student Assessment**

### **Program Assessment**

The proposed master's program is designed as a terminal degree. Students who successfully complete the degree will be well-placed to assume management and sales positions at any level of the agricultural production, processing, and distribution chain. Per current departmental standards records will be kept of all graduates and first employment. To the degree possible, departmental and College of Agriculture of agricultural personnel will track the career success of program graduates.

### **Expected Student Performance Standards**

Students will be expected to satisfy standards set by the School of Graduate Studies. The minimum overall GPA will be 3.0.

## **Section V: Finances**

### **Budget**

The current request represents a program that requires no new courses. Thus, the APEC Department has already allocated the teaching FTE necessary to meet student numbers associated with the MS-IFAB. Selected students will be funded through research assistantships using research allocations from the Utah Agricultural Experiment Station and external grant funding. Total Utah Agricultural Experiment Station funding for APEC graduate students in AY 2010-11 was just under \$150,000; MS-IFAB affiliated faculty (Appendix C) generated over \$750,000 in new grants and contract during calendar year 2010.

All figures and footnotes in the financial analysis form have been calculated and written by the Utah State University Budget and Planning Office. One graduate student FTE is ten credit hours per semester.

**Utah State University  
Master of Science in International Food and Agribusiness**

**Financial Analysis Form for All R401 Documents**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Students</b>					
Projected FTE Enrollment	9	9	9	9	9
Cost per FTE <sup>1</sup>	17,392	17,392	17,392	17,392	17,392
Student/Faculty Ratio <sup>2</sup>	10	10	10	10	10
Projected Headcount <sup>3</sup>	6	6	6	6	6

<b>Projected Tuition</b>					
Gross Tuition <sup>4</sup>	27,249	28,339	29,472	30,651	31,877
Tuition to Program					

**5 Year Budget Projection**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Expense</b>					
Salaries & Wages					
Benefits					
Total Personnel	N/A - All costs are currently covered in existing programs. There are no additional faculty or staff				
Current Expense	FTE, library, or other operational funds required.				
Travel					
Capital					
Library Expense					
Total Expense					

<b>Revenue</b>					
Legislative Appropriation					
Grants & Contracts					
Donations	N/A - funded through existing resources				
Reallocation					
Tuition to Program					
Fees					

Total Revenue	0	0	0	0	0
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<b>Difference</b>					
Revenue - Expenses	0	0	0	0	0

**Budget Comments**

1. Represents the 2009-10 E&G cost of Basic Graduate instruction in the Department of Applied Economics divided by the 2009-10 AY Basic Graduate Student FTE in Applied Economics plus projected enrollment noted. Source: 2010 Department Profiles.
2. Represents the 2009-10 AY Basic Graduate Student FTE in the Department of Applied Economics plus the projected enrollment noted divided by the 2009-10 AY E&G Applied Economics FTE faculty. Source: 2010 Department Profiles.
3. The projected number of students in the program each year.
4. The gross tuition generated by the projected headcount enrollment at 15 graduate credit hours for one semester. The figures use the 2011-12 tuition schedule and assume 75% resident and 25% non-resident. Assumed 4% growth in tuition rate each year.

**Funding Sources**

The proposal requires no new courses, and will rely upon already allocated E&G funding resources, as well as resources associated with the Utah Agricultural Experiment Station, grants, and contracts.

**Reallocation**

The proposal does not require any reallocation of existing resources within the department.

**Impact on Existing Budgets**

All courses required by this program are currently offered and taught at USU. Therefore, there will be no incremental cost to the APEC Department.

## Appendix A: Curriculum

### Curriculum for Masters of Science in International Food and Agribusiness

Course Prefix and Number	Title	Credit Hours
<i>Core Courses at USU</i>		
MGT 4590	Global Market Strategy	3
APEC 5015	Firm Mgmt, Planning & Organization.	3
APEC 6030	Agricultural Marketing	3
APEC 6040	Agribusiness Production & Supply Chain Mgmt	3
APEC 6330	Econometrics	3
<i>Courses at the Royal Agricultural College</i>		
Module 4061	Business Economics	1.5
Module 4066	Financial Mgmt	2
Module 4067	Business Strategy	2
Module 4079	Food Chain	1.5
Module 4092	Personal and Organisational Change	2
Total		24

Plan A (30 credits total)

Six thesis credits, 24 hours required coursework

Plan B (30 hours total)

Three thesis credits, 24 hours required coursework, three hours elective coursework

Potential elective courses: See Appendix B

No new courses will be required or are planned for the next five years.



## Appendix B: Program Schedule

### *Required Courses*

#### Fall Semester (15 credits)

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MGT 4590	Global Market Strategy	3
APEC 5015	Firm Mgmt, Planning & Organization.	3
APEC 6030	Agricultural Marketing	3
APEC 6040	Agribusiness Production & Supply Chain Mgmt	3
APEC 6330	Econometrics	3

#### Spring Term at Royal Agricultural College (9 credits)

Module 4061	Business Economics	1.5
Module 4066	Financial Mgmt	2
Module 4067	Business Strategy	2
Module 4079	Food Chain	1.5
Module 4092	Personal and Organizational Change	2

### *Elective Courses*

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APEC 6300	Quantitative Analysis for Business and Policy Decisions
APEC 6500	Intro to Natural Resource Economics
APEC 6510	Intro to Environmental Economics
APEC 6700	Regional and Community Economic Development
APEC 6710	Community Planning and Impact Analysis

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### Appendix C: Faculty

Name	Degree/Institution	Field(s) of Expertise
<i>Applied Economics Faculty*</i>		
DeeVon Bailey	Ph.D., Texas A&M University	Agricultural Marketing
Kynda Curtis	Ph.D., Washington State University	Agricultural Marketing and Consumer Economics
Dillon Feuz	Ph.D., Colorado State University	Agricultural Marketing and Production
Don Snyder	Ph.D., Utah State University	Agricultural Production
Ruby Ward	Ph.D., Texas A&M University	Value-added Agriculture, Community Development

## Appendix D: Modules at the Royal Agricultural College

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Module 4061	Business Economics	Keynesian and Monetarist approaches to the macro-economy. Inflation and unemployment. The Common Agricultural Policy of the European Union. The World Trade Organisation and multilateral agreements on trade in agricultural products.
Module 4066	Financial Management	Portfolio theory and capital asset management. Efficient markets theory. Dividend policy. Cost of Capital. Mergers and acquisitions.
Module 4067	Business Strategy	Consider how a business can create and sustain competitive advantage; corporate structure, power and cultural influences; making strategic choices for growth and decline; implementing change.
Module 4079	Food Chain	The major issues involved and the factors driving change in food production, distribution and consumptions are explored. Examples of the most significant current challenges faced by individuals, companies, and policy makers operating in the food chain are presented for analysis. The application of relevant aspects of business planning to the challenges of operating in the food chain is considered.
Module 4092	Personal and Organisational Change	Seminar course with speakers from leading EU firms and government organisations.

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**Institution Submitting Proposal:** Utah State University

**College, School or Division in Which Program/Administrative Unit Will Be Located:** College of Agriculture

**Department(s) or Area(s) in Which Program/Administrative Unit Will Be Located:** Department of Applied Economics

**Program/Administrative Unit Title:** Bachelor of Science in Environmental and Natural Resource Economics

**Recommended Classification of Instructional Programs (CIP) Code:** 03.0204

**Certificate, Diploma and/or Degree(s) to be Awarded:** Bachelor of Science

**Proposed Beginning Date:** July 1, 2012

**Institutional Signatures (as appropriate):**

Raymond T. Coward, Chief Academic Officer: \_\_\_\_\_

Noelle Cockett, Dean, College of Agriculture: \_\_\_\_\_

Paul M. Jakus, Head, Department of Applied Economics: \_\_\_\_\_

**Executive Summary**  
**Utah State University**  
**Bachelor of Science in Environmental and Natural Resource Economics**

**Program Description**

The Bachelor of Science in Environmental and Natural Resource Economics (ENRE) is aimed at students seeking an undergraduate degree focused on the efficient allocation of natural resources and amenities. The ENRE degree will be administered by the Department of Applied Economics (APEC) at Utah State University and will make use of courses already offered at USU. The curriculum requirements will consist of 61 credit hours and includes seven APEC courses. An important feature of this degree is that ENRE majors will be required to complete a 15-20 credit "track" or a minor in the College of Natural Resources. Students may choose from one of three required tracks/minor: Environmental Policy and Management, Ecology, and Watershed Science (Appendix D). The minor/track requirement assures that economic training will occur within the context of current natural resource policies or the physical processes of the environment.

**Role and Mission Fit**

As the state's Land Grant institution, Utah State University's mission includes research, education, and outreach in areas including agriculture, engineering, and the sciences. The proposed BS-ENRE degree advances the core values of the institution by providing students skills needed to efficiently allocate and manage natural resource and environmental amenities. The degree complements APEC's undergraduate degree programs in Agribusiness, International Agribusiness, and Agricultural Economics.

**Faculty**

Seven APEC faculty members will be responsible for instruction in the environmental and natural resource economics courses offered through APEC and contributing to the ENRE degree (Appendix C).

	Tenure	Contract	Adjunct
Number of faculty with Doctoral degrees	7	0	0
Number of faculty with Master's degrees	0	0	0
Number of faculty with Bachelor's degrees	0	0	0
Other Faculty	0	0	0

In addition to these seven faculty, USU faculty members in the College of Natural Resources will assume instructional responsibility for the natural science and environmental management components of the curriculum.

**Market Demand**

According to the USDA (Goecker et al., 2010), significant job opportunities in occupations associated with the ENRE degree are expected in the 2010-2015 period. These jobs result from shifts in employment as opportunities associated with climate change, renewable energy, and environmental restoration become more important in the future. Potential careers include environmental consulting, natural resource and environmental policy analysis, environmental law, and resource management.

**Student Demand**

According to a recent survey of Land Grant Universities by Park (2010), some 27 of APEC’s peer departments offered an ENRE-like major or concentration as of 2009. A key summary statistic reported by Park is that ENRE-like majors were about 25-30% of the number of Agribusiness majors in these departments. Given APEC has approximately 80 majors in its two agribusiness BS programs, we anticipate about 20-22 ENRE majors.

**Statement of Financial Support**

The program will be supported using already appropriated E&G funds.

- Legislative Appropriation ..... X
- Grants.....
- Reallocated Funds.....
- Tuition dedicated to the program .....
- Other .....

**Similar Programs Already Offered in the USHE**

No similar undergraduate program is offered at any other USHE institution. The University of Utah offers two undergraduate environmental and natural resource economics courses, but no degree. A search of webpages for Dixie State College, Southern Utah University, Utah Valley University, and Weber State University found no courses offered in environmental and resource economics.

## **Section I: The Request**

Utah State University requests approval to offer a Bachelor of Science in Environmental and Natural Resource Economics effective Fall Semester 2012. This program has been approved by the Board of Trustees of Utah State University on \_\_\_\_\_

## **Section II: Program Description**

### **Complete Program Description**

The Bachelor of Science in Environmental and Natural Resource Economics (ENRE) is an undergraduate degree to be administered by the Department of Applied Economics using courses that are all currently offered at USU. The degree focuses on the application of economic principles to the efficient allocation of natural resources such as minerals, oil and natural gas, the management of public lands, and pollution of public goods such as air and water. A defining curricular component in the degree program is the required minor or track in disciplines currently housed in the College of Natural Resources. A solid grounding in either environmental policy and management (a track offered by the Department of Environment and Society) or a natural science (Watershed Sciences minor offered by the Department of Watershed Sciences or the Ecology Track offered by the Department of Wildland Resources) assures that an ENRE graduate will learn economic principles in the context of natural resources and the environment.

### **Purpose of Degree**

With increasing competition for limited land, water and other natural resources in the U.S. and throughout the world, as well as growing concern about environmental degradation, there is a growing need for professionals who can assist in the process of balancing economic and environmental tradeoffs. Private firms face serious challenges in meeting stricter environmental regulations and achieving self-imposed environmental goals. Public agencies must continually seek to design policies so that society's resource conservation or environmental quality goals are achieved in a cost-effective manner. ENRE graduates will be well-prepared to contribute to the goals of organizations and agencies in both the private and public sectors.

### **Institutional Readiness**

APEC currently offers three undergraduate degrees: the BS in Agribusiness, BS in International Agribusiness, and the BS in Agricultural Economics. In addition, the department offers three graduate degrees: an MS in Applied Economics, an MS in Economics and Statistics (jointly administered with the Department of Mathematics and Statistics), and a Ph.D. in Economics. A third MS degree, International Food and Agribusiness, is currently in the review process. The ENRE major will require no new courses.

### **Faculty**

The Department of Applied Economics includes 11 faculty members holding the rank of Assistant Professor or higher, and one Extension Specialist holding an MS degree. Four faculty members have been hired since 2009. All faculty members holding the PhD degree may supervise Senior Projects for ENRE majors. Seven faculty members will be responsible for handling the core curriculum of the proposed degree (Appendix C).

## **Staff**

Based on the study by Park (2010), we anticipate an 20-22 additional students to be advised by APEC personnel. The program requires no lab technicians, additional secretarial support, or teaching assistants. The College of Agriculture Advising Center has assured APEC that sufficient advising capacity exists for ENRE majors. Thus, no additional staff will be required.

## **Library and Information Resources**

No additional library resources are necessary to support the degree. USU's undergraduate computing facilities will be adequate to serve ENRE majors, and no specialized software will be needed. In the case of a senior project requiring specialized econometric software, APEC will provide access to its graduate computing lab to be located in the College of Agriculture building currently under construction.

## **Admission Requirements**

The admission requirements will be consistent with the existing USU admission requirements. Admission will require a minimum high school grade point average of 2.5 (4.0 = A) accompanied by a score of 18 on the ACT, and 860 on the SAT (not including the writing component), or a 90 index score. Provisional admission may be made following USU admissions policies.

## **Student Advisement**

APEC has a designated advisor housed in the College of Agriculture's Advising Center. The advisor and Associate Dean in the College of Agriculture have assured APEC that the COA Advising Center has capacity to handle the additional students in the ENRE major.

## **Justification for Graduation Standards and Number of Credits**

The ENRE degree will require 61 credits in its core curriculum, with an additional 14-20 credits for the required natural resources/environment minor or track, summing to 75-81 required credits, with 121 total credits needed for graduation. The core curriculum requirements are very similar to those of APEC's other undergraduate degrees, which require between 68 and 71 credits.

## **External Review and Accreditation**

The discipline of Economics (and its fields) has no accrediting body. Instead, the former Department of Economics has been periodically reviewed by the USDA. APEC plans to maintain these regular external institutional reviews. According to the USDA, the agency conducts reviews,

...at the request of cooperating institutions, facilitates reviews of institutions, departments, programs, or issues...Institutions identify the purpose, objectives, and scope of the review activity based on their own needs and internal planning processes. Preparation of a forward looking planning document by the reviewed entity is an integral part of the review activity. Generally, the internal review process is followed by an in depth on-site visit by an external team of well qualified peers lasting two or more days, depending on the scope and complexity of the activity as determined by the institution. The external team of reviewers can help the institution project future needs and directions for the reviewed entity for some definitive time frame into the future based on the self-study document and the site visit.<sup>1</sup>

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<sup>1</sup> [http://www.nifa.usda.gov/about/prog\\_reviews.html](http://www.nifa.usda.gov/about/prog_reviews.html)



## Projected Enrollment

Year	Student Headcount	Student-Faculty Ratio*
2012-13	3	25
2013-14	7	30
2014-15	12	36
2015-16	18	40
2016-17	20	42

\* Note: The proposed degree will be offered using existing courses. The student:faculty ratio was calculated using numbers from the USU Basic Undergraduate Instruction plus the expected enrollment from the 2010 Department Profile.

### Expansion of Existing Program

The proposed degree will require no new courses and thus does not represent an expansion of current programs.

## Section III: Need

### Program Need

The proposed Bachelor of Science in Environmental and Natural Resource Economics is an undergraduate degree that prepares the student for placement in the workforce or further training in graduate school. The proposed program aims to help improve the quality of life for citizens of Utah and the U.S. with respect to sustainable use of natural resources and protection of environmental quality by making human capital investments necessary to prepare graduates for leadership positions within the private, public and nonprofit sectors.

### Labor Market Demand

Evidence of employer need for graduates of the proposed program can be found in a report by Gloecker et al. (2010) entitled "Employment Opportunities for College Graduates in the U. S. Food, Agricultural, and Natural Resources System: 2010-2015". The report projects 54,400 annual job openings for the foreseeable future. Of the four major factors affecting employment opportunities for graduates of Colleges of Agriculture, two are within the purview of ENRE graduates: "Food, energy, and environment public policy choices" and "Global market shifts in population, income, food, and energy." Nearly half of the total projected job openings are in management and business occupations, a category that includes environmental and natural resource economists. A substantial shortfall of qualified agricultural and natural resource graduates is expected. The report specifically notes that, "A growing number of managerial jobs will be found in environmental compliance and restoration ecology." The ENRE curriculum, with its required policy and management or natural sciences minor/track, ensures that graduates will be well-trained as contributors to the pressing needs of the future.

Students graduating with this major may find employment in private firms with environmental compliance and restoration activities or conservation initiatives directed toward energy or other natural resources. Opportunities also exist with consulting firms that assist clients in meeting environmental objectives. Many nonprofit environmental organizations seek to employ staff with economic training. Several federal

government agencies, including the Environmental Protection Agency and the departments of Agriculture, Interior and Energy, employ natural resource and environmental economists. State and local government agencies also provide opportunities for employment. The major provides a strong background for graduate studies in natural resource and environmental economics, leading to career opportunities in teaching and/or research, as well as high-level policy positions. Students would also be well prepared to pursue a professional program in environmental law.

### **Student Demands**

Park (2010) conducted a survey of over 25 economics departments housed in Colleges of Agriculture at land grant institutions. The two departments with the longest-lived ENRE-like programs (University of Georgia and Michigan State University) reported 56 and 41 majors, respectively, in 2009. Park's survey shows generally growing enrollment trends in the late 2000s across surveyed institutions. The program director at the University of Georgia (UGA) has provided time-series data that shows some mild oscillations in student demand over the years, with oscillations loosely pegged to waxing and waning interest in environmental issues (Bergstrom, 2010).

### **Similar Programs**

There are no similar programs in Utah. In the mountain west, only the University of Arizona offers a similar undergraduate degree (B.S. in Environmental and Water Resource Economics). Colorado State University offers a concentration within its BS-Agricultural Economics degree. No Land Grant institution in the states of Idaho, Nevada, New Mexico, or Montana offers a similar degree. Land Grants institutions in Washington, Oregon, and California each offer a similar degree.

### **Collaboration With and Impact on other USHE Institutions**

No other program similar to ENRE is offered at any USHE institution.

### **Benefits**

Given the importance of public lands, renewable and non-renewable natural resources, and environmental amenities to Utah's economy, the state will benefit from training its undergraduates in the tools and techniques of efficient management of these resources. A little over half of the U.S. Land Grant institutions already offer a degree or concentration in environmental and natural resource economics, but the proposed degree at USU distinguishes itself from those of its land grant peers because of the required policy or natural sciences minor/track. Not only will ENRE graduates be well-versed in how economists approach management of environmental and natural resources, but also in how state and federal policies or natural scientists approach natural resource management decisions.

### **Consistency with Institutional Mission**

As the state's land grant institution, Utah State University has a mission in research, teaching, and extension. The goal of the proposed program is to contribute to improving the quality of life for citizens of Utah and the U.S. with respect to sustainable use of natural resources and protection of environmental quality by making human capital investments necessary to prepare graduates for leadership positions within the private, public and nonprofit sectors. This goal is consistent with the mission of Utah State University, the College of Agriculture, and the Department of Applied Economics. The teaching goal of COA and APEC is to prepare students in the natural and social sciences-based academic programs for careers in agriculture, natural resources and other arenas.

## Section IV: Program and Student Assessment

### Program Assessment

The specific objectives of the proposed program are (1) to challenge students intellectually in their study of natural resource management and environmental policy, (2) to prepare professionals who can apply economic analysis within a multidisciplinary perspective, and (3) to prepare graduates to successfully pursue advanced study in the areas of economics, law and public policy if desired.

Evaluation of the proposed program with regard to the three objectives stated above will be multifaceted and ongoing and will be the responsibility of the APEC Department Head. The degree program will be evaluated as part of the regular external Academic Program Review as designated by the USU Provost's Office. Student feedback will be solicited in three ways: 1) through evaluations of each departmental course required in the program; 2) through a group senior exit interview held at the end of the spring semester; and 3) through a survey of alumni every five years. Finally, APEC will use the COA Advising Center to track the employment of graduates in the private, public and nonprofit sectors.

### Student Performance Standards

Consistent with departmental standards in its other majors, ENRE majors will be required to have an overall major GPA of 2.5 or higher, with a C or better in every required course.

## Section V: Finances

### Budget

The current request represents a program that requires no new courses. Thus, the APEC Department has already allocated the teaching FTE necessary to meet student numbers associated with the ENRE degree. All figures and footnotes in the Financial Analysis Form presented below have been calculated and written by the USU Budget and Planning Office.

### Utah State University BS in Environmental and Natural Resource Economics

Financial Analysis Form for All R401 Documents					
	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Students</b>					
Projected FTE Enrollment	3	7	12	18	20
Cost per FTE <sup>1</sup>	7,202	6,089	5,104	4,274	4,054
Student/Faculty Ratio <sup>2</sup>	25	30	36	42	45
Projected Headcount <sup>3</sup>	3	7	12	18	20
<b>Projected Tuition</b>					
Gross Tuition <sup>4</sup>	22,098	53,625	95,605	149,144	172,345
Tuition to Program					

**5 Year Budget Projection**

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Expense</b>					
Salaries & Wages					
Benefits					
Total Personnel	N/A - All costs are currently covered in existing				
Current Expenses	programs. There are no additional faculty or				
Travel	staff FTE, library, or other operational funds				
Capital	required.				
Library Expense					
Total Expense					

<b>Revenue</b>					
Legislative Appropriation					
Grants & Contracts					
Donations	N/A – funded through existing				
Reallocation	Resources.				
Tuition to Program					
Fees					
Total Revenue	0	0	0	0	0

<b>Difference</b>					
Revenue - Expenses	0	0	0	0	0

**Budget Comments**

1. Represents the 2009-10 E&G cost of Basic Undergraduate Instruction in the Department of Applied Economics divided by the 2009-10 AY undergraduate student FTE in Applied Economics plus projected enrollment. Source: 2010 USU Department Profiles.
2. Represents the 2009-10 AY Basic Undergraduate Student FTE in the Department of Applied Economics plus the projected enrollment noted divided by the 2009-10 AY E&G Applied Economics FTE faculty. Source: 2010 USU Department Profiles.
3. The projected number of students in the program each year.
4. The gross tuition generated by the projected headcount enrollment at 15 undergraduate credit hours per semester for an academic year. The figures use the 2011-12 tuition schedule and assume 75% resident and 25% non-resident. Assumed 4% growth in tuition rate each year.

**Funding Sources**

The proposal requires no new courses, and will rely upon already allocated E&G funding resources.

**Reallocation**

The proposal does not require any reallocation of existing resources within the department.

### **Impact on Existing Budgets**

All courses required by this program are currently offered and taught at USU. Therefore, there will be no incremental cost to the APEC Department.

## Appendix A: Program Curriculum

Course Prefix/Number	Title	Credit Hours
ACCT 2010	Financial Accounting Principles	3
ACCT 2020	Managerial Accounting Principles	3
APEC/ECN 201	Intro to Microeconomics	3
APEC 3010	Intro to Agric Economics and Agribusiness	3
APEC 3012	Intro to Natural Resource and Regional Economics	3
APEC 3310	Mathematics in Agricultural and Resource Economics	3
APEC/ECN 4010	Intermediate Microeconomics	3
APEC 5000	Macroeconomics and Trade	3
APEC 5330	Applied Econometrics	3
APEC 5560	Natural Resource and Environmental Economics	3
APEC 5850	Regional and Community Economic Development	3
ECN 1500	Intro to Economic institutions, History, and Principles	3
ENVS 3010	Fundamentals of Natural Resource and Environmental Policy	3
ENVS 3330	Environment and Society	3
MATH 1050	College Algebra	3
MATH 1100	Calculus Techniques	3
MIS 2100	Principles of Management Information Systems	3
MIS 2200 <i>or</i> ASTE 3050	Business Communication <i>or</i> Technical and Professional Communication Principles in Agriculture	3
STAT 2300	Business Statistics	4
SOC 4620	Sociology of the Environment and Natural Resources	3
<b>Total</b>		<b>61</b>

The policy or natural sciences minor or track will require an additional 14-20 credits (Appendix B). No new courses will be required or are planned for the next five years.

## Appendix B: Program Schedule

The following curriculum is required for the Bachelor of Science degree in environmental and natural resource economics (ENRE). Students enrolled in the ENRE major should consult with their advisor to determine which breadth, depth, and elective courses they should complete. ENRE majors are required to complete a minor or track in environmental policy or a natural science. Students should consult with an advisor to develop an individualized plan of study that includes the appropriate minor or track.

### Freshman Year (30 credits)

Fall Semester (15 credits)

<b>ECN 1500 (BAI)</b> Introduction to Economic Institutions, History, and Principles.....	3
<b>MATH 1050 (QL)</b> College Algebra.....	4
<b>USU 1010</b> University Connections.....	2
<b>USU 1330 (BCA)</b> Civilization: Creative Arts.....	3
Elective course(s).....	3

Spring Semester (15 credits)

<b>APEC/ECN 2010 (BSS)</b> Introduction to Microeconomics.....	3
<b>ENGL 1010 (CL1)</b> Introduction to Writing: Academic Prose.....	3
<b>MATH 1100 (QL)2</b> Calculus Techniques.....	3
<b>USU 1320 (BHU)</b> Civilization: Humanities.....	3
Elective course(s).....	3

### Sophomore Year (31 credits)

Fall Semester (16 credits)

<b>ACCT 2010</b> Financial Accounting Principles.....	3
<b>MIS 2100</b> Principles of Management Information Systems.....	3
<b>STAT 2300 (QL)</b> Business Statistics.....	4
<b>USU 1350 (BLS)</b> Integrated Life Science.....	3
Elective course(s).....	3

Spring Semester (15 credits)

<b>ACCT 2020</b> Managerial Accounting Principles.....	3
<b>APEC 3010 (DSS)</b> Introduction to Agricultural Economics and Agribusiness.....	3
<b>ENVS 3330</b> Environment and Society.....	3
<b>ENGL 2010 (CL2)</b> Intermediate Writing: Research Writing in a Persuasive Mode.....	3
Breadth Physical Sciences (BPS) course.....	3

<b>Junior Year (30 credits)</b>	
Fall Semester (15 credits)	
<b>APEC 3012 (DSS)</b> Introduction to Natural Resource and Regional Economics.....	3
<b>APEC 3310 (QI)</b> Mathematics in Agricultural and Resource Economics.....	3
<b>ASTE 3050 (CI)</b> Technical and Professional Communication Principles in Agriculture (3 cr) <b>or</b>	
<b>MIS 2200 (CI)</b> Business Communication (3 cr).....	3
<b>ENVS 3010</b> Fundamentals of Natural Resource and Environmental Policy.....	3
<b>Elective Course</b> .....	3
Spring Semester (15 credits)	
<b>APEC/ECN 4010</b> Intermediate Microeconomics.....	3
<b>APEC 5000</b> Macroeconomics and Trade.....	3
<b>APEC 5560</b> Natural Resource and Environmental Economics.....	3
<b>SOC 4620</b> Sociology of the Environment and Natural Resources.....	3
<b>Elective course</b> .....	3
<b>Senior Year (27-30 credits)</b>	
Fall Semester (15 credits)	
<b>APEC 5850</b> Regional and Community Economic Development.....	3
Depth Humanities and Creative Arts (DHA) course.....	3
<b>Elective courses</b> .....	9
Spring Semester (15 credits)	
<b>APEC/ECN 5330 (QI)</b> Applied Econometrics.....	3
<b>APEC 5950</b> Senior Project.....	3
<b>Elective courses</b> .....	9

1The regular calculus series (MATH 1210 and 1220) is recommended for students contemplating graduate studies in economics. MATH 1210 will fulfill the MATH 1100 requirement.



### Appendix C: Faculty in the Department of Applied Economics Teaching Courses in the ENRE Major

Name	Degree/Institution	Field(s) of Expertise
Ryan Bosworth	Ph.D., University of Oregon	Environmental Economics, Econometrics
Arthur Caplan	Ph.D., University of Oregon	Environmental Economics
Paul Jakus	Ph.D., North Carolina State University	Environmental Economics
Man-Keun Kim	Ph.D., Texas A&M University	Natural Resource Economics, Regional Economics
Reza Oladi	Ph.D., McGill University	International Trade & Environment
Charles Sims	Ph.D., University of Wyoming	Natural Resource Economics
Don Snyder	Ph.D., Utah State University	Natural Resource Economics, Agricultural Production

## Appendix D: Recommended Minors/Tracks for ENRE Majors

### Department of Environment and Society

#### *Environmental Policy and Management Track (15 credits)*

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#### **ENVS 4130 - Recreation Policy and Planning**

##### **3 credits**

Examines the historical, legal, and political context of outdoor recreation policy on public lands; government agency culture, regulation, and partnering; relationship of outdoor recreation to tourism; and theory and application of principal planning tools for outdoor recreation settings.

**Semester(s) Traditionally Offered:** Spring

---

#### **ENVS 4000 - Human Dimensions of Natural Resource Management (DSS)**

##### DSS Depth Social Sciences

##### **3 credits**

Focuses on balancing science and social values in ecosystem management and decision-making. Topics include environmental justice, communication and behavior change strategies, landscape perception and attitudes, resource-dependent communities, public involvement, and conflict management.

**Semester(s) Traditionally Offered:** Fall

---

#### **ENVS 4500 - Wildland Recreation Behavior (CI)**

##### CI Communications Intensive

##### **3 credits**

Social, psychological, and geographic influences on human behaviors in wildland recreation settings. Emphasis on critical problems affecting public land recreation management.

**Semester(s) Traditionally Offered:** Fall

---

#### **ENVS 5550 - Sustainability: Concepts and Measurement**

##### **3 credits**

Examines the challenges and opportunities of sustaining resources and ways of life. Develops a global and long-term perspective on concepts of sustainability, challenges, resources, courses of action to become sustainable, and how to measure progress toward sustainability goals.

Cross-listed as: ENVS 6550 .

**Semester(s) Traditionally Offered:** Spring

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#### **ENVS 6320 - Water Law and Policy in the United States**

##### **3 credits**

Introduction to policies, laws, institutions, and practices guiding western water allocation, emphasizing how to efficiently and equitably allocate increasingly scarce supplies. Explores reserved water rights, water markets, stream adjudication, public trust doctrine, basinwide management, and riparian management.

**Semester(s) Traditionally Offered:** Spring

## Department of Watershed Sciences

*Watershed Science Minor (16 credits)*

### WATS 3700 - Fundamentals of Watershed Science (CI)

---

CI Communications Intensive

**3 credits**

Study of water movement, hillslope processes, and nutrient movement in catchments, and its relevance to the properties, land use, and management of watersheds as natural resource units.

**Semester(s) Traditionally Offered:** Spring

### WATS 4490 - Small Watershed Hydrology

---

**4 credits**

Detailed exploration of concepts of hydrologic processes in small, wildland watersheds. Concentrates on recent research findings concerning key hydrological processes. Particular attention paid to study of partitioning of water in the hydrologic cycle, sources for runoff generation, snow and snowmelt, and erosion. Features process modeling and parameter estimation techniques as related to wildland systems.

**Prerequisite/Restriction:** MATH 1100 or MATH 1210 ; and WATS 3700 .

**Cross-listed as:** WATS 5490 .

**Semester(s) Traditionally Offered:** Spring

### WATS 4530 - Water Quality and Pollution

---

**3 credits**

Reviews biological and social problems caused by point and nonpoint source water pollution; toxicology; abiotic and biotic water quality parameters; and use criteria of the Clean Water Act. Graduate-level class will require additional readings of the peer-reviewed literature and an additional class meeting to have in-depth discussions of those readings. Each graduate student will be responsible for making a presentation at the beginning of class, and leading the discussion.

**Cross-listed as:** WATS 6530 .

**Semester(s) Traditionally Offered:** Fall

Plus two of the following:

### WATS 3820 - Climate Change (DSC/QI)

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DSC/QI Depth Life and Physical Sciences and Quantitative Intensive

**3 credits**

Emphasizes physical basis of climate (climate dynamics), as well as the mechanisms and processes for its fluctuations on sub-seasonal to interannual time scales (climate variations) and on regional to hemispheric/global time scales.

**Prerequisite/Restriction:** GEO 1110 or GEOG 1000 .

**Cross-listed as:** PSC 3820.

**Semester(s) Traditionally Offered:** Spring

### WATS 4500 - Limnology: Ecology of Inland Waters

---

**3 credits**

Ecosystem analysis of physical, chemical, and biological interactions in lakes and streams. Application of these concepts for managing aquatic system. Graduate students write an additional research paper and present a lecture.

**Prerequisite/Restriction:** CHEM 1210 .

**Cross-listed as:** WATS 6500 .

**Semester(s) Traditionally Offered:** Spring

### **WATS 5150 - Fluvial Geomorphology**

---

**3 credits**

Focuses on physical processes in streams that control their shape, plan form, slope, bed material, and distribution of channel bars. Emphasizes field analysis of these topics, and application of geomorphology to aquatic ecology and environmental restoration.

**Cross-listed as:** WATS 6150 and GEO 5150 /GEO 6150 .

**Semester(s) Traditionally Offered:** Fall

### **WATS 5640 - Riparian Ecology and Management**

---

**3 credits**

Explores structure and function of riparian ecosystems and management options for maintaining sustainable ecological function.

**Prerequisite/Restriction:** NR 2220/BIOL 2220 , WATS 3700 .

**Cross-listed as:** WATS 7640 .

**Semester(s) Traditionally Offered:** Spring

**Department of Wildland Resources**  
*Ecology Track (20 credits)*

**BIOL 1610 - Biology I**

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**4 credits**

Principles of cell biology, energetics, and genetics; plant structure, function, and development. Three lectures and one lab. To receive University Studies Breadth Life Sciences (BLS) credit, students must complete both BIOL 1610 and either BIOL 1620 or BIOL 3300. The BIOL 1610 and BIOL 3300 option for BLS credit is available only to students majoring in Biological Engineering or Environmental Engineering. The BIOL 1610 and BIOL 3060 option for BLS credit is available only to students in the Bioinformatics Emphasis of the Computer Science Major.

**Semester(s) Traditionally Offered:** Fall

**BIOL 1620 - Biology II (BLS)**

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**BLS Breadth Life Sciences**

**4 credits**

Animal structure, function, and development; principles of evolution, ecology, and behavior. Three lectures and one lab.

Prerequisite/Restriction: BIOL 1610.

**Semester(s) Traditionally Offered:** Spring

**BIOL 2220 - General Ecology**

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**3 credits**

Study of the interrelationships among organisms and their environments, addressing where and how organisms live. Adaptation, population growth, species interactions, biodiversity, and ecosystem function are explored for a wide variety of organisms and ecosystems.

Prerequisite/Restriction: BIOL 1610 and BIOL 1620.

Cross-listed as: NR 2220

**Semester(s) Traditionally Offered:** Fall, Spring

**WILD 4600 - Conservation Biology**

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**3 credits**

Patterns and processes creating biological diversity. Causes and consequences of diversity losses from genes to ecosystems, including habitat fragmentation and exotic invasion. Conservation laws and organizations. Approaches to conserving diversity loss, including reserve design, corridors, and species reintroductions.

Prerequisite/Restriction: NR 2220 /BIOL 2220.

**Semester(s) Traditionally Offered:** Spring

## **WILD 4700 - Ecological Foundations of Restoration**

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### **3 credits**

An advanced plant ecology course emphasizing topics especially relevant to successful establishment of plants in disturbed environments and restoration of functioning dynamic ecosystems. It covers basic ecological processes from the population the ecosystem level and applications to ecological restoration.

Prerequisite/Restriction: NR 2220 or BIOL 2220

**Semester(s) Traditionally Offered: Spring**

## **Choose One of the Following**

## **WILD 4000 - Principles of Rangeland Management**

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### **3 credits**

Modern principles of rangeland management, including history of the profession, ecology, plant physiology, impacts of grazing on individual plants and plant communities, grazing management, range animal nutrition, rangeland watersheds, and the economics and planning of rangeland practices. Also introduces range-wildlife relations and vegetation manipulation.

**Semester(s) Traditionally Offered: Spring**

## **WILD 5300 - Wildlife Damage Management Principles**

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### **3 credits**

Explains current legal, ethical, and biological principles for the control and/or management of problem vertebrate species.

Cross-listed as: WILD 7300.

**Semester(s) Traditionally Offered: Spring**

## **Appendix E: Letters of Support**

Dr. Mark Brunson, Head, Dept. of Environment and Society (converted from PDF)

Dr. Chris Luecke, Head, Dept. of Watershed Sciences (via email)

Dr. Johan DuToit, Head, Dept. of Wildland Resources (via email)

Department of Environment and Society  
College of Natural Resources

October 14, 2011

Dr. Paul Jakus  
Department of Applied Economics  
Utah State University

Dear Paul,

I am happy to offer my full support for the proposed Bachelor of Science in Environmental and Natural Resource Economics (ENRE).

As you know, our two departments have been working for some time on ways to build on our respective strengths in environmental/natural resource economics and environmental/natural resource policy. We have designed courses so that they can meet the needs of students in both of our departments, and I see this as degree as a natural extension of our ongoing partnership. I strongly believe it's in the best interests of both our departments that we can produce graduates who can bring to the workplace an understanding of the economic, social *and* natural science aspects of environmental/natural resource systems.

Our department will contribute two of the core courses in the ENRE degree, ENVS 3010 and ENVS 3330. We are prepared to adjust the capacity of both courses, if necessary, to ensure there is room for both College of Natural Resources and ENRE majors. Your degree also includes an Environmental Policy and Management track that involves five additional ENVS courses. One of those is presently offered only as a graduate course, and we may have to adjust the curriculum to account for that, but otherwise I see little problem accommodating students in the new major.

I wish you luck with your proposal, and look forward to working with you as the degree progresses toward implementation.



Mark W. Brunson Department Head and Professor



Paul,

The Department of Watershed Sciences enthusiastically endorses the Department of Applied Economics request to establish a new BS degree in Environmental and Natural Resource Economics. Some of the students in this new major will take classes in Watershed Sciences. We have the capacity to provide space for these students. Undergraduate students in existing degree programs in Watershed Sciences will benefit from interactions with students in this new degree program. Exposing Utah State students to economic aspects of natural resource management will benefit these students and the resources of our state.

Chris Luecke

Paul,

Thanks for sharing your proposal for the new BS degree in Environmental and Natural Resource Economics. I support this proposal very strongly. Worldwide, there is an increasing demand in the employment marketplace for economists with a firm academic grounding in ecosystem goods and services. USU is presently not an option for prospective students wishing to become qualified in this important field and so your proposed degree will be an asset to our institution. In particular, I am excited to see the Ecology track in the proposed curriculum because this will facilitate the exchange of students between WILD and APEC, while enhancing the existing collaborations between our respective faculties.

I applaud you for developing this initiative and I look forward to welcoming APEC students into our classrooms. If you need any support as you negotiate the approvals process then please don't hesitate to call on me.

With best wishes,

Johan

**Johan T. du Toit**

Professor and Department Head

Department of Wildland Resources

Utah State University

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Web: <http://www.cnr.usu.edu/wild>

## References

Bergstrom, J. 2010. Personal Communication. August 27, 2010.

Goecker, A.D., P.G. Smith, E. Smith and R. Goetz. 2010. Employment Opportunities for College Graduates in Food, Renewable Energy, and the Environment. Retrieved July 16, 2011.

[www.csrees.usda.gov/nea/education/part/education\\_part\\_employment.html](http://www.csrees.usda.gov/nea/education/part/education_part_employment.html)

Park, W. 2010. "New Curricular Initiatives: the Case of Undergraduate Programs in Resource/Environmental Economics." Session 3060 at the 2010 Annual Meeting of the Agricultural and Applied Economics Association, Denver , CO.